



May 23, 1994

Ms. Liza I. Montalvo
Remedial Project Manager
Kentucky/Tennessee Section
U. S. EPA
Region IV
345 Courtland Street, N. E.
Atlanta, GA 30365

Re: Results of Air Quality Monitoring - FY 94 First Quarter (FY94-1Q), Lees' Lane
Superfund Site, Jefferson County, Kentucky Administrative Order on Consent,
U. S. EPA Docket No. 91-32-C

Dear Ms. Montalvo:

In accordance with paragraph 11, under, Reporting Requirement, of the subject Consent Order and Attachment I, Operation and Maintenance Plan for Post-Removal Site Control at the Lees' Lane Landfill Site, Section 4.2, Air Quality Monitoring, attached for your information and files is one photocopy each of the following letter of October 21, 1993 analyses and sampling location map prepared by Radian Corporation, P. O. Box 13000, Research Triangle Park, North Carolina 27709, as received by MSD on May 17, 1994:

1. Radian Corporation letter, dated May 16, 1994, 2 pages.
2. Figure 1, Lees' Lane Landfill, Sampling Locations, 1 page.
3. Table 1, TO-14 Data Summary for Ambient Air Samples at the Lees' Lane Landfill, Sampling date: 8/24/94, 1 page.
4. Table 2, On-Site Meteorological Data, 8/24/94 1 page.
5. Table 3, TO-14 Data Summary for Gas Monitoring Well Samples at Lee's Lane Landfill, Louisville, KY, Sampling Date: 8/24/94, 1 page.

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Ms. Liza I. Montalvo

May 23, 1994

Page 2

We regret the delay in sending in this First Quarter Report which was caused by an unintentional oversight of the Radian Corporation who failed to mail this report to MSD in a timely manner. MSD did not receive the report until May 17, 1994.

Please advise if you have any questions concerning these sampling arrangements.

Sincerely,

A handwritten signature in black ink, which appears to read "Carl A. Neumayer", is written over the typed name. The signature is fluid and cursive.

Carl A. Neumayer
Director of Operations

CAN/dc

CAN1:1b

cc: KNREPC, Attn: Mr. Rick Hogan
Division of Waste Management
G. R. Garner, Executive Director
File: WD-2 (Lees' Lane M & M Quarterly)

RADIAN

CORPORATION

May 16, 1994

Mr. Dan Sammons
Chief Chemist
Louisville Metropolitan Sewer District
4522 Algonquin Parkway
Louisville, Kentucky 40211

Progress Center
3200 E. Chapel Hill Rd./Nelson Hwy.
P.O. Box 13000
Research Triangle Park, NC 27709
(919) 481-0212

5/17/94 *DS*
DATE TO C.A. Neumayer
COPIES TO _____

Dear Dan,

Enclosed is the summary analytical report for the ambient and gas monitoring well samples collected at the Lee's Lane Landfill site on March 16, 1994.

A map of the site has been labelled with the sample collection locations for your reference in Figure 1. Table 1 is a tabular summary for the ambient sample with the primary analytes required for submission to EPA. All primary analytes are at or near the analytical detection limit, except for one sample. The ambient sample (LL-AS-R2-06) reported a Methylene chloride concentration of 6.5 ppbv. Other analytes in this sample and the other ambient samples were at or below detection limits.

The monitoring sites for this quarterly collection were chosen based on a combination of prevailing on-site meteorology and available sites in the adjacent residential neighborhood per the standard sampling protocol. It was cool, but sunny for most of the monitoring day with a slight southeast breeze. Hourly readings of wind speed and direction from an on-site source were recorded by LMSD personnel. The meteorological data is summarized in Table 2. The ambient samples were collected 3-5 feet above ground level. The ambient samples collected were integrated over a 7-8 hour collection period in Summa® canisters.

The methane analysis was performed by GC/FID on a separate analytical column prior to the TO-14 analysis. The TO-14 analytical methodology by Gas Chromatography/Mass Spectrometry (GC/MS) was employed for this set of quarterly samples. The GC/MS was chosen to confirm the presence of TO-14 compounds and other Tentatively Identified Compounds (Tic's). All ambient and gas well samples were successfully analyzed by the TO-14 methodology by GC/MS except for gas well sample (LL-AS-G5N-06) as noted below.

Table 3 is a tabular summary of the gas well samples with the primary analytes required for submission to EPA. Each set of gas monitoring wells was screened with field monitors (OVA-128, combustible gas meter, and PhotoTip). The values for methane

Mr. Dan Sammons

May 16, 1994

Page 2

were recorded by the OVA-128. The OVA values were used to select the wellhead [Shallow (S) or Deep (D)] for collection of the canister sample.

The methane analysis was done by Gas Chromatography/Flame Ionization Detection (GC/FID) at Radian's Perimeter Park Laboratory. Sample canisters and flow controllers were cleaned and blanked by TO-12 for total hydrocarbons prior to field deployment. Samples were handled with standard laboratory chain of custody procedures. The GC/MS confirmation by TO-14 was also performed at Radian's Perimeter Park Laboratory.

The laboratory determined methane results are consistent for both the ambient air and the gas monitoring wells. The methane analysis indicated levels above the analytical detection limit. The ambient level of methane measured was approximately 2 ppmv, while the methane level measured in the gas wells ranged from 0.85 to 3.5 ppmv. The laboratory determined methane values are higher than the reported field values due to the inherently greater analytical sensitivity. All field measurements from the OVA, Hnu, PhotoTip, and TMX were below the detection limit of each instrument. The laboratory measured methane results do not vary greatly from the past sampling periods.

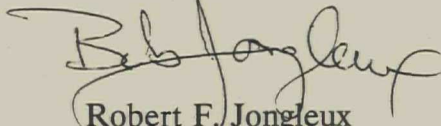
The TO-14 results by GC/MS analysis of the Summa® canisters are generally at or below the analytical detection limits. All analyses excepted for LL-AS-G5N-06 were successful completed and reported. The canister sample from this gas well contained high levels of carbon dioxide (CO₂). The high levels of carbon dioxide overloaded the mass spectrometer and repeatedly terminated the chromatographic run. Subsequent serial dilutions (30X) resulted in completed chromatographic analysis, but the results were far below a level for possible quantification. Hence TO-14 results are not reported (NR) for this sample.

Very few TO-14 compounds were detected in either the ambient or gas well samples. The presence of methylene chloride at low concentrations was confirmed in 4 of the ambient air samples and one of the gas well samples. The concentration of other primary analytes of benzene, toluene, xylene, and vinyl chloride are at or below the analytical detection limits.

Mr. Dan Sammons
May 16, 1994
Page 3

Radian appreciates the opportunity to assist your staff with this project. Please advise me at (919) 481-0212 if you have any questions.

Sincerely,



Robert F. Jongleux
Project Director

RFJ/

Attachments

cc: G.A. Holliden, Radian/LOU
Jay A. Snyder, Radian/RTP



Figure 1. Lees Lane Landfill Sampling Locations

Not to scale.

TABLE 1

**TO-14 DATA SUMMARY FOR AMBIENT AIR SAMPLES AT THE LEES'S LANE LANDFILL
LOUISVILLE, KENTUCKY**

SAMPLING DATE: 3/16/94

Sample ID	AS-U1	AS-A1	AS-A2	AS-R1	AS-R2	AS-R3
Canister ID	A141752	A127734	A127724	A167612	A127721	A141750
Location	Upwind	Downwind	Downwind	Residential	Residential	Residential
Dilution Factor	.9472	.9338	.9572	.9470	.9342	.9374
Compound (conc. in ppbv)						
Benzene	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	<0.50	<0.50	<0.50	<0.50	0.87	<0.50
Xylene (total)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	1.01	1.92	<0.50	2.42	6.53	<0.50
Vinyl Chloride	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methane (ppm)	2.04	2.34	2.00	2.05	2.22	2.18

Note: less than values indicate compound was at or below the analytical detection limit.

TABLE 2
ON-SITE METEOROLOGICAL DATA
MARCH 16, 1994

Time	Barometric Pressure (in Hg)	Humidity (%)	Wind Direction From	Wind Speed (mph)	Observations
730	29.58	65	330°	8	Partly Cloudy
800	29.59	65	330°	5	Partly Cloudy
830	29.64	57	330°	6	Sunny
900	29.63	58	350°	6	Sunny
930	29.66	53	320°	8	Sunny
1000	29.66	53	320°	8	Sunny
1030	29.67	50	320°	2	Sunny
1100	29.67	52	280°	3	Sunny
1130	29.67	50	320°	3	Sunny
1200	29.67	44	320°	3	Sunny
1230	29.69	40	10°	2	Sunny
1300	29.65	43	340°	8	Sunny
1330	29.66	39	280°	8	Sunny
1400	29.66	38	330°	11	Sunny
1430	29.63	38	300°	11	Sunny
1500	29.65	33	330°	5	Sunny
1530	29.64	35	330°	5	Sunny
1600	29.65	34	320°	10	Sunny
1630	29.63	34	280°	2	Sunny

**** Compiled by LMSD personnel at Lee's Lane Landfill Site ****

TABLE 3

**TO-14 DATA SUMMARY FOR GAS MONITORING
WELL SAMPLES AT THE LEE'S LANE LANDFILL
LOUISVILLE, KENTUCKY**

SAMPLING DATE: 3/16/94

Sample ID	AS-G1D	AS-G2S	AS-G3S	AS-G4S	AS-G5NV	AS-G5N	FBL
Canister ID	A127727	A127732	A127729	A127733	A141754	A141767	A141762
Dilution Factor	1.000	1.000	.9603	.9636	1.000	.9601	1
Orifice	D-B1	D-33	D-6	D-104	D-3	D-8	--
Compound (conc. in ppbv)							
Benzene	<0.50	<0.50	<0.50	<0.50	<0.50	NR	<0.50
Toluene	0.52	<0.50	<0.50	2.27	<0.50	NR	<0.50
Xylene (total)	<0.50	<0.50	<0.50	<0.50	<0.50	NR	<0.50
Methylene Chloride	<0.50	<0.50	<0.50	1.42	<0.50	NR	<0.50
Vinyl Chloride	<0.50	<0.50	<0.50	<0.50	<0.50	NR	<0.50
Methane (ppm)	3.52	3.07	2.10	2.26	2.20	0.85	0.00

Note: Less than values indicate compound was at or below the detection limit

NR - NOT REPORTED due to high CO₂ concentration (see text)